REMARKS

Claims 11-18 and 30-37 are pending. Claims 11, 30, and 37 are in independent form.

In the action mailed March 9, 2007, claims 11 and 37 were rejected under 35 U.S.C. § 112, second paragraph as indefinite. The rejection contends that the recitations of "the formerly periodic pattern" lack antecedent basis and renders these claims indefinite.

Applicant respectfully disagrees. Claims 11 and 37 both recite "exposing a periodic pattern." The "regularity of the periodic pattern" in these claims is subsequently broken by exposing a portion of at least one line to radiation. Accordingly, antecedent basis for "the formerly periodic pattern" has been established and the scopes of claims 11 and 37 are clearly discernable to those of ordinary skill.

Claims 11 and 37 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,415,835 to Brueck et al. (hereinafter "Brueck").

The rejection of claims 11 and 37 point to col. 4, lines 30-45 as supporting the Examiner's contention that Brueck does not strip a first photoresist prior to applying a second photoresist. *See, e.g., Office action mailed March 9, 2007,* page 7, paras. 11.A), 11.B). For the sake of convenience, this portion of Brueck is now reproduced.

> "As an alternative method, first a single or multiple set of interferometric exposures are carried out in photosensitive layer. The subsequent pattern is then developed and transferred to a semiconductor substrate by any of the well known commercially available techniques. This substrate is then again recoated with a photoresistive layer, and single or multiple exposure processes can be repeated with the aid of the alignment position sensing arrangement described in Brueck, et al. in U.S. Pat. No. 4,987,461.
>
> Referring to FIG. 3, the image depicted is a rectilinear array of circular dots on the photosensitive layer about 300 nm apart from each other in the x and y axes. The photoresist layer is developed and transferred into the Si sample by a plasma-etch process." *See Brueck*, col. 4, lines 30-45 (emphasis added).

As can be seen, there is no support whatsoever for the contention that Brueck does not strip a first photoresist prior to applying a second photoresist. Indeed, Brueck's description that the substrate is recoated at least implies the exact opposite. In particular, Brueck clearly distinguishes between "the substrate" and the first "photosensitive layer" in the immediately preceding sentence, which describes how the pattern is developed in the photosensitive layer and transferred to the semiconductor substrate. There is no reason to believe that this distinction is discarded when Brueck describes that the substrate is recoated.

This interpretation of the term "substrate" to exclude the first photosensitive layer is fully consistent with Brueck's usage of the term "recoat." In particular, it is clear that Brueck's first photosensitive layer was never previously coated. As such, Brueck's first photosensitive layer cannot be "recoated." Instead, it is the semiconductor substrate that is recoated, i.e., coated as it was first coated with the first photosensitive layer. Thus, not only does Brueck's usage of the term "substrate" exclude the first "photosensitive layer" in the immediately preceding sentence, the usage of the term "recoat" implies that it is the substrate- absent the first photosensitive layer- on which the second photosensitive layer is formed.

To establish anticipation, the rejection must show the subject matter recited in claims 11 and 37 "in as complete detail as is contained in the ... claim[s]." *See, e.g., M.P.E.P.* §2131 (*citing Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, (Fed. Cir. 1989)). Unsupported speculation that Brueck does not strip his first photoresist prior to applying a second photoresist fails to meet this standard, especially when Brueck at least implies the opposite is true.

Thus, as discussed in the response filed December 8, 2006, it appears that the Brueck strips his first photoresist before recoating the substrate with his second photoresist. Therefore, Brueck neither describes nor suggests forming a second photoresist over the first photoresist, as recited in both claims 11 and 37.

Accordingly, the anticipation rejections of claims 11 and 37 are improper. Applicant respectfully requests that these rejections, and the rejections of the claims dependent therefrom, be withdrawn.

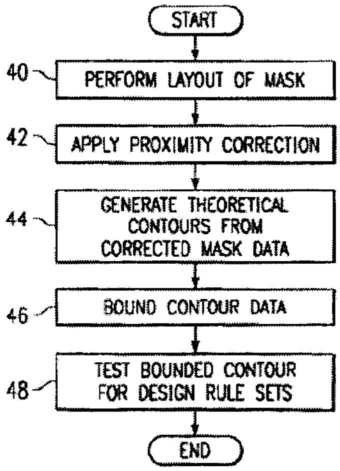
Claim 30 was rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent Publication No. 2002/0078427 to Palmer et al. (hereinafter "Palmer").

Claim 30 relates to a method that includes receiving a pre-determined design layout, receiving a pattern layout of alternating, parallel lines and spaces, and subtracting the design layout from the pattern layout of alternating, parallel lines and spaces to form a remainder layout.

The present incarnation of the rejection of claim 30 contends that Palmer's subtraction of a "final bounded contour data set" from a data set representation of an initial input mask constitutes the subtraction of a design layout from a pattern layout.

Applicant respectfully disagrees. It is clear that Palmer's "final bounded contour data set" is not a layout at all, much less either a design layout or a pattern layout. In this regard, attention is respectfully directed to FIG. 6 of Palmer, which is now reproduced for the sake of convenience.

FIG. 6


START
40
PERFORM LAYOUT OF MASK
42
APPLY PROXIMITY CORRECTION
44
GENERATE THEORETICAL CONTOURS FROM CORRECTED MASK DATA
46
BOUND CONTOUR DATA
48
TEST BOUNDED CONTOUR FOR DESIGN RULE SETS
END

As shown, at 42, Palmer applies proximity correction techniques to a mask layout created at 40. At step 44, theoretical contours are constructed from the proximity corrected mask data. *See Palmer*, para. [0024]. The construction of these theoretical contours yields "a contour data set" which defines the curvilinear forms which would be created if the proximity corrected mask were actually used. *Id.*

Applicant respectfully submits that these theoretical contours are not a layout. Rather, they are theoretical representations of what would happen if a proximity corrected layout were actually used. Indeed, the whole reason that Palmer's technology exists is that there are non-negligible discrepancies between layouts and the features actually printed using such layouts. *See, e.g., Palmer*, para. [0002] (discussing the interactions that distort desired pattern layouts on printing).

Palmer also describes that these theoretical representations of what would be created were a proximity corrected mask actually used can be "bounded." *Id.* Such bounding creates a data set that defines a set of polygons that approximates the curvilinear contours of this theoretical representation. *Id.* These bounded contour data sets can be compared with the initial layout, e.g., by Boolean subtraction. *Id.*

Since Palmer's theoretical contours are not a layout, sets of polygons that approximate these theoretical contours (i.e., the bounded contour data sets) are also not a layout. Rather, the bounded contour data sets are simply an approximation of what would happen if a proximity corrected mask were actually used to print features. As discussed above, it is not reasonable to consider such a theoretical construct a layout, especially when Palmer is directed to accounting for the distinctions therebetween.

Accordingly, claim 30 is not anticipated by Palmer. Applicant respectfully requests that the rejections of claim 30 and the claims dependent therefrom be withdrawn.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Applicant asks that all claims be allowed. No fees are believed due at this time. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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